

Status of the EVM/RCN Project

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Reliable Broadcast Library

- We need a reliable broadcast library for the RCN Event-ID distribution
 - ➔ Latency requirement is tight
 - ➔ It works either on Ethernet or IEEE1394
- Updates in this summer
 - ➔ Slower but more stable behavior with 'ACK' mechanism (DAQ workshop, Jun.29)
 - ➔ Improvements for better stability (Weekly mtg., Sep.13)
- Mainly working on UDP/FastEthernet version
- Implementation on IEEE1394 is not yet done due to technical problems

Reliable Broadcast Library (cont'd)

- Code modifications for better stability
 - ➔ J.G.'s visit at Fermi helped a lot
- Bug fixes
 - ➔ Tuning buffer depth at several places
 - ➔ Safety mechanism for 'ACK' packet drops
 - ➔ Design change to allow multiple instances
- It passed preliminary reliability tests
 - ➔ Continuous sending (by I.S.)
 - ➔ Repeating short burst w/ various packet length (by J.G.)

RCN in the XDAQ

- J.G. put peer-transport for the broadcast library in the XDAQ CVS HEAD
- I.S. incorporated that changes into APRIL2001R1 XDAQ (the last tagged release) and tested it.
- Next steps
 - ➔ The RCN message – 'RemoveAndReadout'
 - ➔ Event-ID handling in the RM and the RUI

Future Work

- Implementing missing RCN parts into the XDAQ to catch up with the Ptolemy EVM implementation progress.
- Brushing up the broadcast library
 - ➔ IEEE1394
 - ➔ Reliability/timing tests
- EVM performance studies for the EVM hardware design and GTP–EVM I/F design

Milestones

- RCN integration into the XDAQ [2001 Q4]
- EVM/RCN integration into the vertical demonstrator [2002 Q1?]
 - ➔ CERN: Integration of other components ? [2002 ??]
- EVM/RCN integration into the switch demonstrator [2002 ??]
 - ➔ CERN: Barrel shifter in the XDAQ ?[2002 ??]
- EVM study with XDAQ+RCN [2002 Q2]
 - ➔ Linux vs. RT-Linux
 - ➔ RM+BM on a PC vs. VME RM